

**National Climatic Data Center**

**DATA DOCUMENTATION**

**FOR**

**DATA SET 9835 (DSI-9835)**

**Gridded 700 mb/Sea Level Pressure**

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National Climatic Data Center  
151 Patton Ave.  
Asheville, NC 28801-5001 USA

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**1. Abstract:** This data set contains time-series collections of gridded Northern Hemisphere upper air and sea-level pressure data on a 5-degree (72x15) latitude/longitude grid. These grids have been assembled from the grids of various operational models and meteorological projects. NCDC has daily upper air and sea level pressure grids from 1947 to current years. All grids are 5-degree lat-lon grids from 15N - 85N and 00E - 355E. The upper air grids were derived from the National Meteorological Center (NMC) octagonal grid. For these grids there is no original data south of 20N, all these points are set to missing (value of 99999.9). There is also a pole value for later grids.

**2. Element Names and Definitions:** The data are stored on magnetic tape, in card image format. The tapes contain either 700mb height, or sea level pressure observations taken twice daily.

Each group of 50 records contains 11 elements in the first 49 and 6 elements in the 50th record. Each group corresponds to one Northern Hemisphere map of 700mb height or Sea Level Pressure observations, including four identification header (overhead) elements in the first record.

The header and the grid point data are read in as real (floating point) numbers in a formatted read as follows:

```

C-----READ ONE MAP'S WORTH OF DATA FROM TAPE
      REAL DATA (545)
      READ (1, 2) (DATA (I), I=1,545)
2     FORMAT (50(11F7.1/))
C-----WRITE TO PAPER:FIRST HEADER, THEN DATA
      WRITE (6,10) (DATA(I), I=1,4), (I,DATA(I),1=5,545)
10    FORMAT(1X, 'PARAMETER=',F5.0, 3X,
      'YEAR=',F5.0,3X, 'MONTH=',F5.0,3X,
      'DAY=',F5.0,3X, 'GRIDDED DATA FOLLOW'//,
      54 (10(I5,F8.1/)),I5,F8.1//)

```

This read and write algorithm reads one data map and its header. Add a loop to read through the entire tape.

Each tape is unlabelled, 6250 BPI, fixed block, LRECL=80 and BLKSIZE=23440.

The first 4 values of each 545 are the header elements, and the next 541 are the grid point data values.

The header elements are as follows:

- (1) the parameter (7. for 700 mb height data, 0. for SLP data)
- (2) the year, minus 1900.
- (3) the month number, from 1 to 12. However, if the map is for 12Z rather than 00Z, an extra 12 is added, so that 13. would be Jan. and 24. would be Dec.
- (4) Day of the month.

:  
:  
:

Elements 5 through 545 are the 541 grid point data values. The locations of the grid points are keyed to the element number as shown in the enclosed "Table of array element number", which shows all grid points (following the 4 header words).

Examples: element 14 is the data value at 70N, 10W; element 220 is that at 40N, 300W (or 60E); 507 is at 75N, 315W (or 45E); 4 is the day number (the last header element); 5 is the value at the North Pole. Note that as the element number increases, the location progresses from north to south along a longitude, and the longitudes progress toward the west (first for the "even" grid points whose coordinates are divisible by 10, and then for the "odd" ones whose are not).

Also note that the grid is not equal-area (the farther north, the more dense the coverage), and that the grid points form "diamonds" rather than squares.

3. **Start Date:** 19470101

4. **Stop Date:** Ongoing.

5. **Coverage:** Northern Hemisphere

- a. Southernmost Latitude: 15N
- b. Northernmost Latitude: 85N
- c. Westernmost Longitude: 180W
- d. Easternmost Longitude: 180E

6. **How to Order Data:**

Ask NCDC's Climate Services about the cost of obtaining this data set.

Phone: 828-271-4800

FAX: 828-271-4876

E-mail: [NCDC.Orders@noaa.gov](mailto:NCDC.Orders@noaa.gov)

7. **Archiving Data Center:**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, NC 28801-5001  
Phone: (828) 271-4800.

8. **Technical Contact:**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, NC 28801-5001  
Phone: (828) 271-4800.

9. **Known Uncorrected Problems:** Early in the period of record there are a number of grid points with missing data; these grid points may change from map to map. Later in the period these missings subside, but a number of days have all grid points missing.

They are as follows:

\*5/16/75 00Z, 12Z

12/31/84 12Z

:  
:  
:

4:

*5/17/75 00Z, 12Z	7/1/85 00Z
*5/18/75 00Z, 12Z	8/7/85 12Z
**2/4/78 12Z	12/16/86 12Z
6/27/82 12Z	3/12/87 12Z
	2/13/88 00Z

\* missing for 700 mb but not for SLP  
 \*\* missing for SLP but not for 700 mb  
 missing for 700 mb and SLP

There is evidence of a positive bias in 700 mb heights over the Caribbean and North Africa in the 1950's. See Barnston and Livezey (1987) in MWR, page 1115-1117, for details.

10. Quality Statement:

11. Essential Companion Datasets:

12. References: No information provided with original documentation.